



1854 Treaty Authority

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March 16, 2018

Minnesota Pollution Control Agency
520 Lafayette Road N
St. Paul, MN 55155-4045
(submitted electronically)

RE: PolyMet Draft NPDES/SDS Permit and 401 Certification Comments

Dear Minnesota Pollution Control Agency,

The purpose of this letter is to provide comments on the Draft National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) Permit-MN0071013 and 401 Certification.

The 1854 Treaty Authority is an inter-tribal natural resource management agency governed by the Bois Forte Band of Chippewa and Grand Portage Band of Lake Superior Chippewa, both federally recognized tribes. The organization is charged to preserve and protect treaty rights and related resources within the 1854 Ceded Territory. The 1854 Treaty Authority would like to highlight concerns related to the proposed project that we feel are not adequately addressed in the NPDES/SDS Permit and 401 Certification. Please note that these comments are submitted by 1854 Treaty Authority staff with the understanding that member reservations may submit comments from their own perspective.

NPDES/SDS Permit

Responsibility to Legacy Water Quality Issues

We have concern over language in the Permit to Mine (PTM) Appendix 15: Financial Assurance, Attachment O: Memorandum from MPCA to DNR on Legacy (Memo) and how it pertains to the NPDES/SDS permit. On page 2 of the Memo, it states *"It is important to note that operation of the proposed NorthMet project resolves any legacy water quality issues at the ferrous Basin"* in both the Question and MPCA Response sections. This statement appears to absolve PolyMet of its obligation to mitigate water quality issues at the former LTVSMC tailings basin once operation commences. This assumes operation of the Flotation Tailings Basin (FTB) seepage capture and collection system and wastewater treatment system (WWTS) will effectively capture and treat the contaminated discharge that is already occurring and all the proposed discharge. This is a substantial assumption and we want to ensure that operation of the proposed NorthMet project does properly address PolyMet's obligation to legacy water quality issues at the

A consortium of the Grand Portage and Bois Forte Bands of the Lake Superior Chippewa

LTVSMC tailings basin. Resolution should be based on actual results for as long as operation of the FTB seepage capture and collections system and WWTS are necessary (perhaps perpetuity). We are also concerned over language in the Memo that suggests PolyMet will not be required to treat or mitigate legacy pollution at the LTVSMC tailings basin if they are permitted but do not become operational. The Memo concludes that if the NorthMet project never becomes operational after PTM approval and the state becomes responsible for closure of the tailings basin (scenario II), “*No treatment/mitigation for alkalinity, hardness, total dissolved solids (TDS), specific conductance, sulfate, and mercury should be required.*” This cannot be allowed as it would violate the Clean Water Act. This issue needs to be clarified and addressed before final permit decisions are made.

Water Treatment and Seepage Collection

Effectiveness of the proposed water treatment and seepage collection methods are vital to the project meeting water quality standards. Analysis and design detail are lacking in the NPDES/SDS permit. There still seems to be uncertainty in the method of water treatment and we are concerned that proper testing of treatment technologies is lacking for the project at full scale. Adding to this uncertainty is the additional mine site process water being treated at the WWTS due to the elimination of the wastewater treatment facility (WWTF) at the mine site, which was not evaluated in the Final Environmental Impact Statement (FEIS). The seepage collection system around the tailings basin is modeled to have a capture efficiency of 99% (100% of shallow surface seepage and greater than 90 percent of groundwater seepage) along the northern, northwestern, and western portions and 100% along the eastern and southern portions. Description is needed on how this efficiency rate was determined. We question if such a high capture efficiency can be achieved, especially since the current seepage management system on the southern portion of the LTVSMC tailings basin has been far less effective. We also question whether PolyMet will be required to achieve 99% capture efficiency in this or any other permit. In the NPDES/SDS permit (page 41), it states “*The Permittee shall maintain an inward hydraulic gradient across the FTB Seepage Containment System as determined from water level measurements from the paired monitoring wells and piezometers, taking into account temporary conditions that may result from short-term precipitation or snowmelt events.*” It is not clear how maintaining an inward hydraulic gradient (if feasible) will ensure 99% capture efficiency and it is not stated anywhere in the NPDES/SDS permit if/how a capture efficiency would be estimated. Achieving 99% capture efficiency (as proposed) should be a permit requirement since it is what the FEIS, NPDES/SDS permit and other permits are based on and vital for the project meeting environmental requirements.

Groundwater Flow to the North

Significant uncertainties exist with groundwater flows and related contaminated water transport that were not adequately addressed in the FEIS and persist in the NPDES/SDS permit. In particular, the potential for groundwater to flow north from the proposed Mine Site to the existing Northshore Mine, ultimately to the Rainy River Watershed and Boundary Waters Canoe Area Wilderness (BWCAW), has been largely ignored. Little detail is given in the FEIS or NPDES/SDS permit on the potential impacts that would occur if groundwater flows north after mining operations cease and how those impacts could be avoided/mitigated. Given that a

northward flow path currently cannot be ruled out, an impacts analysis needs to be conducted to better inform the NPDES/SDS permit and other permits (including 401 Certification conditions). There should also be inclusion of additional analyses performed by the Great Lakes Indian Fish and Wildlife Commission (GLIFWC), that was provided to the Co-lead Agencies, that details how a northward flow path could/will occur since their results have not been refuted.

Of the potential contingency mitigation options provided in the FEIS to inform the NPDES/SDS and other permits (grouting, pit lake depression, ground water extraction wells, and artificial recharge), none of which have supporting literature and/or examples provided to support their potential use nor any detail about the potential cost for implementation and how that would affect financial assurance for the project as a whole. What is clear is that the existence of a northward flow path and the feasibility of using any mitigation option would not be determined until the project is up and running. On page 46 of the NPDES/SDS permit, it states *"The Permittee shall provide an assessment on the potential for a north flow path in the bedrock or surficial aquifer north of PolyMet's property boundary at the Mine Site. The assessment must provide discussion on whether or not a potential for a north flow path exists and the logic for that determination. If the potential for a north flow path exists, the Permittee must include a plan and schedule for MPCA review and approval for adaptive management or mitigation to prevent northward groundwater flow."* This is a major concern and inadequacy of the project. Not knowing if there will be groundwater flow to the north (impacting the Rainy River Watershed, an entirely different watershed than what is described in the PTM or supporting documents) and the feasibility of the proposed mitigation options until operations have commenced is unacceptable. If a northward flow path is determined while in operation, it is likely that impacts will have already occurred and mitigation (not avoidance) will be the only option. There should also be an explanation of what will happen if, while in operation, a northward flow path occurs and it is determined that none of the proposed mitigation options are feasible. As the project is currently proposed, this is a possibility and it needs to be addressed.

Unauthorized Discharges

On page 62 of the NPDES/SDS permit, it states *"Unauthorized Releases of Wastewater Prohibited. Except for discharges from outfalls specifically authorized by this permit, overflows, discharges, spills, or other releases of wastewater or materials to the environment, whether intentional or not, are prohibited. However, the MPCA will consider the Permittee's compliance with permit requirements, frequency of release, quantity, type, location, and other relevant factors when determining appropriate action. [33 U.S.C. § 1342 and Minn. R. 7001.0030.]"* We are concerned about how unauthorized discharges from the NorthMet project will be handled. Our understanding is that the purpose of the required monitoring sites in the NPDES/SDS permit are to detect the potential for an unauthorized discharge before it occurs so it can be prevented. Detection of an unauthorized discharge after operation commences can either lead to PolyMet needing to eliminate the discharge or the location may become a permitted discharge. If it becomes a permitted discharge location, PolyMet must then comply with effluent limits for certain parameters that would be included/amended to the NPDES/SDS permit for that location. If/when this occurs, it is unclear in the NPDES/SDS permit what process would be used to bring PolyMet into compliance with the new permitted discharge effluent limits. A schedule of compliance seems likely and we are concerned how much contaminated discharge may occur

before it is eliminated, mitigated and/or treated. In some instances, mining facilities have been allowed to be under a schedule of compliance for years, perhaps decades, while only being required to study the problem without actually complying with applicable water quality standards. Many locations of the proposed NorthMet project, especially at the Mine Site (e.g. mine pits, waste rock stockpiles, liners), along the Mine to Plant Pipeline and FTB seepage capture and collections system seem likely to have an unauthorized discharge(s) occur. We suggest including a more detailed process and required actions in the NPDES/SDS permit to address potential unauthorized discharges from the NorthMet project.

During consultation with the MPCA on 3/1/2018, it was unclear if the NPDES/SDS permit implies that any unauthorized discharges from the NorthMet project would have to comply with applicable water quality standards. Although it may be implied in the permit that an unauthorized discharge must comply with applicable water quality standards, it seems to leave the state vulnerable when it comes to enforcement. Currently, language in the NPDES/SDS permit (page 62) only specifies unauthorized discharges being prohibited with no mention of those discharges having to comply with applicable water quality standards. We have seen instances with other facilities where an unauthorized discharge(s) exceeding applicable water quality standards was not found to be a NPDES/SDS permit violation since there were not any effluent limits in the permit for the location(s). We suggest including additional language in the permit to address this issue. Please append this (or similar) language to the NPDES/SDS permit: ***“Any exceedance of Clean Water Act or Minnesota water quality standards is a violation of the NPDES/SDS permit”***. In addition to strengthening language in the NPDES/SDS permit, we suggest adding effluent limits to all authorized discharge locations (including SD002-SD011) and all monitoring locations to make it clear that PolyMet is required to comply with applicable water quality standards for any/all discharges and to ensure the state has the ability to take enforcement actions for non-compliance.

Wild Rice

We are concerned about current and future impacts to wild rice in downstream waters. The MPCA needs to recognize Second Creek as a wild rice water in the NPDES/SDS permit and other relevant permits. There is currently a surface water discharge from the LTVSMC tailings basin south seepage management system to Second Creek at SD026, linked to legacy water quality issues PolyMet is now responsible for, that would not be an authorized discharge location in the NPDES/SDS permit and far exceeds the 10 mg/L wild rice sulfate standard. There has been little detail provided on how the south seepage management system will be improved to reach 100% capture efficiency as proposed and eliminate this discharge, which is a concern since the current design has been far less effective. Design details to improve the south seepage management system have been deferred until after the PTM is issued, so we question if 100% capture efficiency is even possible. If this discharge continues under the proposed NorthMet project, it needs to be treated as an unauthorized discharge and appropriate actions need to be taken to eliminate/mitigate/treat the discharge and meet applicable water quality standards including the wild rice sulfate standard of 10 mg/L.

Wild rice exists upstream in the Embarrass River from the draft MPCA staff recommended definitions of water used for production of wild rice (compliance points) that were provided in

the FEIS to inform the NPDES/SDS permit and other relevant permits. In the Partridge River, the 2009 survey identified rice near SW-004b, also upstream of the proposed compliance point. Currently, the wild rice water quality standard is not being met in portions of the Embarrass and Partridge river systems. The FEIS states that the wild rice sulfate standard would be met for the Embarrass River, assuming the seepage capture and collection system would capture seepage presently going to the Embarrass tributaries. However, the Partridge River will exceed the standard during low-flow conditions. We question how this will be handled in the NPDES/SDS permit when monitoring at/near these locations indicates exceedance of the wild rice sulfate standard.

We also remain concerned about enforcement of the existing wild rice standard of 10 mg/L for this project. It is our understanding that PolyMet plans to meet this approved standard, and it is an enforceable limit in the permit. However, legislative pressures have limited the MPCA enforcement of this approved standard in the state (perhaps a violation of the Clean Water Act), and we question if this could impact permitting for this project. Any formal and approved changes to the wild rice standard may also impact future permitting.

Sulfate Limit at WS074

At the waste stream monitoring location WS074, the proposed sulfate limit of 10 mg/L is to be reported as an annual average instead of a monthly average like copper. This is a concern as it may allow for periodic (perhaps seasonal) discharges of elevated sulfate concentrations (greater than 10 mg/L) from WS074 out through the WWTS at SD001, which does not have an effluent limit or required monitoring for sulfate. To date, there has not been evidence to support periodic/seasonal discharges of elevated sulfate having a lesser effect on wild rice as long as the annual average sulfate concentration of 10 mg/L is maintained. We suggest the sulfate limit of 10 mg/L be reported based on a monthly average concentration instead of the proposed annual average to lessen/eliminate the potential for periodic/seasonally elevated discharges of sulfate.

Hydrometallurgical Residue Facility (HRF)

On page 10 of the NPDES/SDS permit, it states "*The HRF is designed as a closed system: no water from the HRF will be released to the environment through overflow or outlet structures. The HRF is designed with a double liner with a Leakage Collection System between the two liners to prevent leakage to groundwater.*" We are concerned whether it is a safe presumption to operate the HRF without having any leakage or discharge. According to findings from Emmons & Oliver Resources (EOR), engineering consultants hired by the MNDNR to review HRF dam safety, there is serious potential for HRF dam failure due to an inadequate foundation beneath the proposed HRF (soft ground consisting of slimes, peat and tailings concentrate) and the risk of liner deformation from inadequate foundation support of added material. This suggests that a discharge from the HRF is likely and there does not appear to be a comprehensive monitoring plan proposed to detect a potential discharge. Currently, development of a monitoring plan consisting of only one monitoring well location for the HRF is proposed. This does not seem sufficient to detect potential leakage/discharge from the HRF or associated liner/collection systems to surface or ground water, especially given the concern for dam failure by EOR. We suggest the HRF monitoring plan include more surface and ground water monitoring locations in

proximity of the HRF and Hydrometallurgical Plant, since they are to operate as a closed loop system with no discharge to the environment or the FTB seepage capture and collection system and WWTS, so early detection of any leakage/discharges is more feasible.

Mercury Limits at SD001

In the PTM Appendix 15 Memo (page 5), it states “*The applicable mercury standard is 1.3 ng/L*” when referring to surface water quality monitoring for the NorthMet project. Proposed effluent limits for mercury at SD001 (discharge from the WWTS) are 1,000 ng/L (monthly average) and 2,000 ng/L (daily max). No rationale is provided in the NPDES/SDS permit to support using these values over the applicable standard of 1.3 ng/L in Lake Superior basin waters. Therefore, we suggest revising the effluent limit at SD001 to 1.3 ng/L, as this should be the applicable water quality standard for mercury for the NorthMet project.

401 Certification

Partridge River Flow

We are concerned that PolyMet may not have adequate flow monitoring data for the NorthMet project to detect impacts to the Partridge River headwaters. There will be a significant decrease of flow in the Partridge River headwaters from dewatering the proposed mine pits and proposed water appropriations for the NorthMet project, which could significantly degrade the area if not detected and mitigated early. This would be coupled with impacts projected for the Northshore Mining Peter Mitchel Pit progression, which could be substantial. According to a report from Barr Engineering “*Long-Range Hydrology Study Northshore Mining Company Final Report, November 2008*” (page 20-21), “*The Partridge River upstream of Colby Lake will experience a drainage area reduction of approximately 7 square miles between current conditions and post-closure conditions. This reduction is located at the headwaters of the river. Post-closure flows at the Dunka Road crossing are estimated to be as high as forty percent. Flow reductions in the 4.5 mile reach upstream of Dunka Road will be greater, as the area removed from the watershed represents a greater percentage of the total tributary area. Flows in the Partridge River immediately downstream of the post-closure watershed boundary may be reduced by close to 100 percent relative to current conditions.*” If there is a significant loss of flow to the Partridge River headwaters resulting from the NorthMet project, it is not clear if/how PolyMet could augment flow to offset this loss, especially since the WWTF (was the closest source for treated water) has been eliminated. Given that the potential loss of flow to the Partridge River headwaters from the NorthMet project (combined with the Peter Mitchell Pit progression) could be severe, early detection is critical. It is our understanding that the MNDNR will require PolyMet to install continuous flow monitors in several locations in the Partridge River. We strongly suggest that MPCA, as part of the 401 Certification, work with the MNDNR to help select the best sites to detect potential impacts to the Partridge River headwaters early. We also suggest that the MPCA require PolyMet to monitor water quality at the same locations selected for continuous flow monitoring.

Wetlands

We are concerned about the accuracy of wetland delineation (location, number of wetland acres impacted) for the NorthMet project as it relates to the 401 Certification, 404 permit and other permits. Questions regarding wetland delineation have been raised by GLIFWC staff since the FEIS to the U.S. Army Corps of Engineers (USACE) and MNDNR with little response. GLIFWC re-analyzed the original wetland delineation for the PolyMet project using newer LIDAR data and believe that the actual direct wetlands impact to the area could be between 12-28% higher than estimated in the FEIS and included in the PTM. GLIFWC's analysis for wetland delineation should be considered and, if validated, should be used to modify wetland delineation in the PTM and other permits as well as proper mitigation and 401 Certification conditions.

In section 12.3.3 (page 390) of the PTM it states "*In addition to unavoidable direct wetland impacts that are addressed in the wetland mitigation plan, described in Section 12.5, PolyMet analyzed the potential for indirect wetland impacts. A detailed description of the potential indirect assessment methodology and results is provided in Section 5.2 of the Wetland Data Package (Appendix 16.21). The purpose of this analysis was to identify wetlands to be monitored for potential indirect impacts as part of the monitoring plan (Appendix 18.2) to be implemented under the Section 404 and WCA permits for the Project.*" We disagree that the purpose of the indirect effects analysis was to only identify wetlands to be monitored for potential impacts. To meet NEPA requirements, the FEIS needs to inform potential impacts that may result from the project and not just where monitoring should take place. If the project detects impacts to wetlands after the start of operations instead of understanding where impacts could/would occur before operations, it will be too late to evaluate ways to avoid those impacts and mitigation (assuming proper mitigation is feasible) will be the only option. The analytical methods and data necessary to estimate the potential indirect impacts on wetlands is available and should be used to inform permitting requirements as well as conditions to which 401 Certification will be based. The project puts too much emphasis on using adaptive management in lieu of collecting additional data where data is lacking and performing analyses to better characterize and estimate potential impacts. Data and analyses, already available, should be used to estimate acres of indirect impact and determine proper mitigation in permits. Upfront mitigation for wetlands susceptible to severe indirect impacts is currently not proposed and we believe it should be considered. We also contend that additional upfront mitigation should be considered for wetlands that are classified in the moderate to severe category, with robust monitoring being required for wetlands in the moderate category.

Conclusion

Finally, we would like to highlight a general but important concern over the permitting approach. The NPDES/SDS permit and 401 Certification suggest commitment to project components vital to environmental protection such as effective seep capture, waste water treatment, long-term or perpetual water treatment, adaptive management, etc. The facility must be held to these commitments and requirements once operational. A pattern exists at other facilities for regulation and enforcement to be lax, rules ignored, and political pressures. It is important that

permitting and regulation be implemented effectively to ensure protection of the resources of northeastern Minnesota and guaranteed by treaty with the United States.

Thank you for the consideration of our comments.

Sincerely,

A handwritten signature in black ink, appearing to read "Darren Vogt". The signature is fluid and cursive, with the first name "Darren" written in a larger, more prominent script than the last name "Vogt".

Darren Vogt
Environmental Director

Tyler Kaspar
Environmental Biologist